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11-06-03

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

OFFICIAL

Inventors:	Zhimin He et al.		
Serial No.:	09/894,480	Examiner:	A. Castro
Filed:	June 27, 2001	Group Art Unit:	2653
Title:	Flexural Pivot for Rotary Disc Drive Actuator		
Docket No.:	STL9799		

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NOV 04 2003

This appeal is filed in response to the final Office action mailed June 19, 2002 and the Advisory action mailed August 29, 2003.

(1) *Real party in interest*

The real party in interest is Seagate Technology LLC.

(2) *Related appeals and interferences*

There are no related appeals or interferences.

(3) *Status of Claims*

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Claims 1, 3-8, 10-15, 17, 19 and 20 stand rejected and are hereby appealed.

Claims 2 and 9 stand objected to as including allowable subject matter while being dependent upon a rejected base claim.

(4) *Status of Amendments after Final*

No amendments were filed after final. A request for reconsideration was filed August 19, 2003 but was not deemed persuasive by the Office.

(5) *Summary of Invention*

As described in the specification between page 5, line 21 and page 7, line 28, with reference to Figures 2-9, a first contemplated embodiment of the present invention takes the form of a disc drive (such as 10) comprising a housing (such as 32) having a first component (such as 62), an actuator (such as 24) having a wall (such as 56) defining a cavity (such as 44) and a pivot (such as 46) in the cavity (such as 44). The pivot comprises a first member (such as 48) which includes at least one external surface (such as 54) and is coupled to the wall (such as 56), a second member (such as 58) mounted to the first housing component (such as 62) and at least two leaves (such as 64,65), each leaf joining one of the external surfaces (such as 50) to the second member (such as 58), wherein the leaves (such as 64,65) are transversely disposed at an angle to one another such that the actuator (such as 24) is pivotable with respect to the housing (such as 10) about an axis (such as 26).

As described in the specification between page 5, line 21 and page 7, line 28, with reference to Figures 2-9, a second contemplated embodiment of the present invention takes the form of an actuator (such as 24) configured for rotational movement about an axis (such as 26) comprising an actuator body (such as 22) having a wall (such as 56) defining a cavity (such as 44) and a pivot (such as 46) in the cavity. The pivot (such as 46) comprises a first member (such as 48) having at least one external surface (such as 50) and is coupled to the wall (such as 56), a second member (such as 58) configured to be mounted to a first disc drive housing component (such as 62) and at least two leaves (such as 64,66) each leaf joining one of the external surfaces (such as 50) to the second member (such as 58), wherein the leaves (such as 64,66) are transversely disposed at an angle to one another such that the actuator (such as 24) is configured to be pivotable with respect to the disc drive housing (such as 10) about the axis (such as 26).

(6) *Issues*

The issues are as follows:

(1) Whether claims 1, 3, 5, 6, 8, 10, 12, 13, 15, 17, 19 and 20 are unpatentable under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,205,005 to Heath (hereinafter "Heath").

(2) Whether claims 4 and 11 are unpatentable under 35 U.S.C. § 103(a) as being obvious over Heath in view U.S. Patent 6,404,727 to Rao (hereinafter "Rao") and U.S. Patent 4,478,532 to Puro (hereinafter "Puro").

(3) Whether claims 5, 6, 12, 13 and 17 are unpatentable under 35 U.S.C. § 103(a) as being obvious over Heath in view U.S. Patent 5,267,110 to Otteson et al. (hereinafter "Otteson").

(4) Whether claims 7 and 14 are unpatentable under 35 U.S.C. § 103(a) as being obvious over Heath in view U.S. Patent 6,424,503 to Chin et al. (hereinafter "Chin").

(7) *Grouping of Claims*

As to Issue (1), claims 1, 3, 5, 6, 8, 10, 12, 13, 15, 17, 19 and 20 do not stand or fall together, for reasons set forth below in the "Argument" section of this Brief.

As to Issue (2), claims 4 and 11 do not stand or fall together, for reasons set forth below in the "Argument" section of this Brief.

As to Issue (3), claims 5, 6, 12, 13 and 17 do not stand or fall together, for reasons set forth below in the "Argument" section of this Brief.

As to Issue (4), claims 7 and 14 do not stand or fall together, for reasons set forth below in the "Argument" section of this Brief.

(8) *Argument*

Issue (1):

Claims 1, 3, 5, 6, 8, 10, 12, 13, 15, 17, 19 and 20 were rejected under 35 U.S.C. § 102(e) as being anticipated by Heath.

Independent claim 1 recites, among other limitations, "at least two leaves . . .

transversely disposed at an angle to one another." The final Office action states on page 3 that Heath's elements 7, 21 are transversely disposed to one another. However, the broadest interpretation of the term "transverse" requires that the elements cross one another. See, e.g., The American Heritage College Dictionary 1438 (3d ed. 1993) ("Situated or lying across; crosswise"). Heath's elements 7, 21 clearly do not cross one another. For at least this reason, it should be clear that claim 1 is not anticipated by Heath; as such, reversal of the rejection as to claim 1 is respectfully requested.

Claims 3, 5 and 6 depend from claim 1 and are similarly allowable. However, some of these claims are allowable for additional reasons.

Regarding claim 5, the Examiner states that it is "inherent" that Heath's pivot axis and actuator center of mass are coincident. The Office continues to demonstrate a clear misunderstanding of inherency. The Examiner seems to be suggesting that this feature is desirable and thus should be inherent. While the feature is in fact desirable, as described in the present specification, it certainly cannot be described as "inherent" and reversal of the rejection of claim 5 is respectfully requested.

Regarding claim 6, it should be clear that the external surfaces contacted by Heath's element 31 are not inclined toward the actuator's axis of rotation. Reversal of the rejection of claim 6 is respectfully requested.

Like claim 1, independent claim 8 recites, among other limitations, "at least two leaves . . . transversely disposed at an angle to one another." For the same reasons as those set forth above with respect to the rejection of claim 1, it should be clear that claim 8 is not anticipated by Heath; as such, reversal of the rejection as to claim 8 is respectfully requested.

Claims 10, 12 and 13 depend from claim 8 and are similarly allowable, and the rejection of claim 12 is respectfully traversed for the same reasons as those set forth above with respect to claim 5. The rejection of claim 13 is traversed for the same reasons as those set forth above with respect to claim 6.

Claim 15 recites "means for pivotably coupling the actuator to the base." This claim thus invokes 35 U.S.C. § 112, sixth paragraph. Whatever the result may have been under prior PTO practice, the PTO must construe functional limitations in accordance with the corresponding structure disclosed in the specification when examining patents. In re Donaldson, 29 U.S.P.Q.2d 1845 (Fed. Cir. 1994) (en banc). Appellant's corresponding structure at the least includes first and second flexible leaves transversely dispose with respect to one another within the actuator cavity. For reasons set forth above with respect to the rejection of claim 1, it should be clear that Heath does not disclose this feature. The Office has yet to properly analyze claim 15 in the manner required by law. As such, claim 15 is not anticipated by the prior art, and withdrawal of the rejection under § 102(b) is respectfully requested, as is allowance of claim 15.

Claims 17, 19 and 20 depend from claim 15 and are similarly allowable.

Issue (2):

Claims 4 and 11 were rejected as being obvious over Heath in view of U.S. Patent 6,404,727 to Rao (hereinafter "Rao") and U.S. Patent 4,478,532 to Puro (hereinafter "Puro").

Claims 4 and 11 are allowable by virtue of their dependence from claims 1 and 8, which are allowable for reasons set forth above. However, these claims are allowable for additional reasons.

Claims 4 and 8 recite "washers secured to each of the leaves." As acknowledged by the Office on page 4 of the final rejection, Heath does not disclose a pair of washers secured to each leaf. The Office goes on to suggest that Rao discloses screws, and Puro discloses that washers are useful with screws, so it would have been obvious to apply both references to modify Heath to "provide a snug and secure fit between the screw and the leaves." But Heath does not disclose screws. In a breathtaking display of hindsight reasoning, the Office has applied Rao to Heath for the sole purpose of creating a "rationale" for taking the washers from Puro and attaching them to Heath's device. Even the most cursory examination of Heath reveals that spring 21 is held in

place by a compression force upon protrusions 22 and 23. To apply screws and washers to this element would destroy Heath's device. In view of the unsuitability of the Office's proposed modification as well as the excessive hindsight necessary to produce it, this rejection simply cannot be maintained. For at least these reasons, reversal of the rejection and allowance of claims 4 and 8 are respectfully requested.

Issue (3):

Claims 5, 6, 12, 13 and 17 were rejected as being obvious over Heath as previously applied to claims 5, 6, 12 and 13 and further in view of U.S. Patent 5,267,110 to Otteson et al. (hereinafter "Otteson").

Notwithstanding the questionable practice of re-rejecting claims "in view of" an application of a reference to reject *those same claims*, claims 5 and 6 depend from allowable claim 1, claims 12 and 13 depend from allowable claim 8 and claim 17 depends from allowable claim 15. Claims 5, 6, 12, 13 and 17 are allowable for at least these reasons.

Issue (4):

Claims 7 and 14 were rejected as being obvious over Heath in view of U.S. Patent 6,424,503 to Chin et al. (hereinafter "Chin").

Claims 7 and 14 depend from claims 1 and 8, respectively, and are allowable for at least this reason.

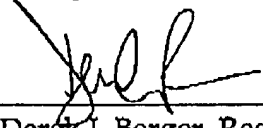
Conclusion:

Appellant maintains that present claims identify the features and benefits of the present invention clearly and concisely. The present invention as claimed is not taught or suggested by the prior art of record or any combination thereof. Therefore, it is respectfully submitted that the appealed claims are in condition for allowance, and favorable action is respectfully requested.

Respectfully submitted,

Seagate Technology LLC
(Assignee of the Entire Interest)

November 4, 2003
Date


Derek J. Berger, Reg. No. 45,401
Seagate Technology LLC
Intellectual Property Dept. - COL2LGL
389 Disc Drive
Longmont, CO 80503
(720) 684-2265 (telephone)
(720) 684-2588 (facsimile)

Appendix of Appealed Claims

1. A disc drive comprising:
 - a housing having a first component;
 - an actuator having a cavity; and
 - a pivot comprising:
 - a first member positioned within the cavity and coupled to the actuator,
the first member having at least one external surface;
 - a second member mounted to the first housing component; and
 - at least two leaves, each leaf joining one of the external surfaces to the
second member, wherein the leaves are transversely disposed at an
angle to one another such that the actuator is pivotable with respect
to the housing about an axis.
2. The disc drive of claim 1 in which the cavity further comprises:
 - two end walls defining a recess in slidable engagement with the second member,
the two end walls serving to limit rotation of the actuator by coming into
abutment with the second member.
3. The disc drive of claim 1 in which the cavity further comprises:
 - a first recess shaped to locate the first member.
4. The disc drive of claim 1 further comprising:
 - a pair of washers secured to each one of the leaves, the washers of each pair
being spaced apart by substantially a same distance.
5. The disc drive of claim 1 in which the pivot has a center of rotation generally
coincident with a center of mass of the actuator.

6. The disc drive of claim 5 in which each of the external surfaces is inclined towards the center of rotation.
7. The disc drive of claim 1, the housing further comprising:
a second component, the second member being coupled to the second housing component.
8. An actuator configured for rotational movement about an axis, comprising:
an actuator body having a cavity; and
a pivot comprising:
a first member positioned within the cavity and coupled to the actuator;
a second member positioned within the cavity and configured to be mounted to a housing; and
at least two leaves, each leaf joining the first member to the second member, wherein the leaves are transversely disposed at an angle to one another such that the actuator is configured to be pivotable with respect to the housing about the axis.
9. The actuator of claim 8 in which the cavity further comprises:
two end walls defining a recess in slidable engagement with the second member, the two end walls serving to limit rotation of the actuator by coming into abutment with the second member.
10. The actuator of claim 8 in which the cavity further comprises:
a first recess shaped to locate the first member.
11. The actuator of claim 8 further comprising:
two washers secured to each one of the leaves, the two washers being spaced apart by a same distance for all the leaves.

12. The actuator of claim 8 in which the pivot includes a center of rotation generally coincident with a center of mass of the actuator.
13. The actuator of claim 12 in which each of the external surfaces is inclined towards the center of rotation.
14. The actuator of claim 8 in which the second member is configured to be mounted to first and second housing components.
15. A disc drive comprising:
 - a base;
 - an actuator configured for rotation relative to the base about an axis of rotation;
 - and
 - means for pivotably coupling the actuator to the base.
17. The disc drive of claim 15, in which the coupling means includes a center of rotation generally coincidental with a center of mass of the actuator.
19. The disc drive of claim 15 in which the coupling means comprises:
 - a mounting element fixed to the base.
20. The disc drive of claim 15 in which the coupling means comprises:
 - a mounting element fixed to the actuator within the cavity.

PTO/SB/21 (08-03)

Approved for use through 07/31/2008. OMB 0851-0031

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	09/894,480	
	Filing Date	June 27, 2001	
	First Named Inventor	Zhimin He	
	Art Unit	2653	
	Examiner Name	A. Castro	
Total Number of Pages in This Submission	33	Attorney Docket Number	STL9799

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ENCLOSURES (Check all that apply)		
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<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input checked="" type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input type="checkbox"/> Other Enclosure(s) (please identify below):
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<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Response to Missing Parts/Incomplete Application	Remarks	
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Derek J. Berger, Reg. No. 45,401
Signature	Seagate Technology LLC
Date	November 4, 2003

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Signature	<i>Zeina Smith</i>	Date	11/04/2003

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**FEE TRANSMITTAL
for FY 2004**

Effective 10/01/2003, Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27**TOTAL AMOUNT OF PAYMENT (\$)** 330.00**Complete if Known**

Application Number	09/894,480
Filing Date	June 27, 2001
First Named Inventor	Zhimin He
Examiner Name	A. Castro
Art Unit	2653
Attorney Docket No.	STL9799

METHOD OF PAYMENT (check all that apply)☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None☒ Deposit Account:Deposit
Account
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Deposit
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The Director is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Credit any overpayments☐ Charge any additional fee(s) or any underpayment of fee(s)☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) (\$)**2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE**

Total Claims	Extra Claims	Fee from below	Fee Paid
Independent Claims	20** =	X	
Multiple Dependent	3** =	X	

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)**3. ADDITIONAL FEES**

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	2053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920	1804	920	Requesting publication of SIR prior to Examiner action	
1805	1,840	1805	1,840	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing brief in support of an appeal	330.00
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1808	180	1808	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$) 330.00**SUBMITTED BY**Name (Print/Type) **Derek J. Berger**Registration No.
(Attorney/Agent)

45,401

(Complete if applicable)

Telephone 720-684-2265

Signature

Date

November 4, 2003

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